ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-02-67

Allotment Number and Name(s)

6028 Black Lake
6054 Mono Lake
6055 Mono Mills
6056 West Reservoir
6058 Dog Creek
6070 Little Mormon
6076 Green Creek
6078 Walters Ranch
6081 Casa Diablo

BL M Bishop Field Office
Prepared
March 2003

CHAPTER 1:
INTRODUCTION

The Bureau of Land Management (BLM) is proposing to issue 10 year term grazing permits on these allotments to authorize livestock grazing. The approximate Public Land acreages are:

Allotment Name	Public Land acres
Black Lake	885
Mono Lake	8,536
Mono Mills	35,932
West Reservoir	753
Dog Creek	5,340
Little Mormon	8,616
Green Creek	3,838
Walters Ranch	516
Casa Diablo	2,193

The allotments are located in the Long Valley, Granite Mountain, Bodie Hills and Bridgeport Valley Management Area of the Bishop Field Office. Their elevation range is between 6,400 and 8,800 feet. Overall, vegetation communities are a mix of Great Basin Big Sagebrush and Bitterbrush. However, the Little Mormon, Mono Mills and Mono Lake allotments contain Pinyon/Juniper Woodland communities.

Need for the Proposed Action

The proposed action is needed to authorize grazing in accordance with grazing regulation 43 CFR 4100 and consistent with the provisions of the *Taylor Grazing Act, Public Rangelands Improvement Act, and Federal Land Policy and Management Act*. Action may be required to maintain or improve resource conditions including rangeland health. Status of existing permit/lease: The grazing permits for these allotments have expired. In accordance with the *National Environmental Policy Act* (NEPA), an Environmental Assessment (EA) must be prepared to analyze the affects of livestock grazing, in order to determine if reauthorizing the grazing permits is appropriate.

Plan Conformance: The proposed action is subject to the following plan:

Bishop Resource Management Plan (RMP), approved on March 23, 1993.

The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)).

Remarks: The proposed action will occur in an area identified for livestock grazing in the Bishop Resource Management Plan. The proposed action is consistent with the land use decisions and resource management goals and objectives of the plan, pages 8 thru 23 and 40 thru 46.

The nine allotments meet all of the Secretary of Interior's Approved Rangeland Health Standards as indicated in the BLM California Rangeland Health Environmental Impact Statement and Decisions Record of July 2000.

Rangeland Health field assessments of the allotments were completed on these dates:

Black Lake	May 2001
Mono Lake	June 2002
Mono Mills	June 2002
West Reservoir	May 2002
Dog Creek	June 2002
Little Mormon	May 2002
Green Creek	June 2002
Walters Ranch	May 2002
Casa Diablo	May 2002

A database detailing the results of these assessments has been completed and is located in the resources/images/range computer directory at the BLM Bishop Field Office.

Relationship to Statues, Regulations, and Plans

Endangered Species

Several of the allotments are within the range of federally listed threatened or endangered species. However, no Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in these allotments. Pursuant to Section 7 of the Endangered Species Act, formal consultation with the Fish and Wildlife Service (FWS) is required on all allotments for which livestock grazing may affect listed species. The stipulations of any grazing permit may be modified to conform to the terms and conditions specified in a FWS biological opinion to minimize take of listed animal species. In addition, the terms and conditions of any grazing permit may also be modified to conform to decisions made to achieve recovery plan objectives as determined through subsequent land use plan amendments or revisions. All Section 7 consultations with FWS were completed in 2000.

Special Status Plant Species

Special Status Plant Species are those species that have been listed by the California Native Plant Society as List 1B species, which includes plants that are rare, threatened or endangered in California and elsewhere. All of the plants constituting List 1B meet the definition of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species

Act) of the California Department of Fish and Game Code, and are eligible for state listing. The Bishop Resource Management Plan (RMP, 1993, p. 17) stipulates year-long protection of sensitive plants (Special Status Plants) and their associated habitats.

The following allotments contain these CNPS List 1B species;

Allotment	**Plant Species**	**Population Trend**
Black Lake	Inyo County mariposa lily (*Calochortus excavatus*), King's Ivesia (*Ivesia kingii* var. *kingii*)	Perennial species – Static
Mono Mills	Mono Lake lupine (*Lupinus duranii*), Mono Astragalus (*Astragalus monoensis*)	Perennial species - Static
West Reservoir	Bodie Hills draba (*Cusickiella quadricostata)*	Perennial species – Unknown trend – located previously unknown populations in June of 2002
Little Mormon	Bodie Hills draba (*Cusickiella quadricostata)*	Perennial species – Unknown trend
Casa Diablo	Long Valley milk-vetch (*Astragalus johannis-howellii*)	Perennial species – Unknown trend

Grazing impacts to these populations have been minimized by avoidance of these sites during key reproductive periods, e.g. late June-July. Overgrazing has occurred in the past in the Adobe Valley and Mono Mills Allotments and monitoring will be required to ensure that these populations are afforded continued protection.

Cultural Resources

California BLM has the responsibility to manage cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, the 1980 Rangeland Programmatic Memorandum of Agreement with the Advisory Council on Historic Places (WO IM 80-369), the 1997 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act, the State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (1998) and other internal policies.

The stipulations of any grazing permit may be modified to reflect the presence of cultural resources. Background site record and literature review are conducted as a minimum level of review as part of the permit renewal EA. Present inventory focused on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas and salt block stations. In general, following the Bishop Field Office research design for grazing assessments (Halford 1999), all areas with a high probability for the congregation of cattle and for the occurrence of significant cultural resources were field evaluated. The results of these analyses may be used to modify grazing permits to protect cultural resources and mitigate impacts to those resources.

Wilderness

There are three designated Wilderness Areas or Wilderness Study Areas (WSAs) within these nine allotments. They include Granite Mountain (CA-010-090) WSA, Mormon Meadow (CA-010-094) WSA, and Mt. Biedeman (CA-010-095) WSA. Approximately 60% of the Granite Mountain WSA is located in portions of the Mono Mills and Mono Lake allotments, while approximately 50% of the Mormon Meadow WSA and 20% of the Mt. Biedeman WSA lie in portions of the Little Mormon allotment. Wilderness values are described in the 1979 Final Wilderness Intensive Inventory Report while the WSA's existing range and other improvements are identified in the 1990 California Statewide Wilderness Study Report (WSR). The Interim Management Policy for Lands Under Wilderness Review (IMP) provides direction for grazing management in WSAs until the WSA is designated wilderness or released from the wilderness review process. (See Appendix A)

The allotments contain no designated Wild and Scenic Rivers. However, the allotments do contain approximately six miles of creeks determined to be eligible for wild and scenic river study in the Bishop RMP (1993). These include Green, Dog and Virginia Creeks. These creeks are all classified as recreational.

Wild and scenic river values are described in Appendix 2 of the draft Bishop RMP and EIS dated September of 1990. The Interim Management Guidelines for Study Rivers provides direction for grazing management on eligible creeks until the creek is designated a wild and scenic river or released from the wild and scenic river review process. Continued livestock grazing within this allotment would be in compliance with this policy. For further information, see Appendix 3 of the final Bishop RMP and EIS dated August of 1991.

Water Quality

Direction for implementation of the Federal Clean Water Act (CWA) of 1972 (P.L. 92-500, as amended) is provided by the Code of Federal Regulations (40 CFR) and by a variety of USEPA guidance documents on specific subjects. To meet the requirements of the CWA on public lands, BLM is currently developing a statewide water quality management plan under an MOU with the California Water Resources Control Board. As part of the water quality plan, BLM is required to submit a listing of Best Management Practices (BMPs) to the state and to the U.S.

Environmental Protection Agency for approval. Pursuant to the decisions affecting water quality in the Bishop Resource Management Plan, BMPs for the Field Office have been submitted to meet the requirements under the CWA.

Section 4180.1 of the Grazing Administration Regulations (4180.1, Federal Register Vol 60, No. 35, pg.9970) directs that certain conditions of rangeland health exist on public lands which include the statement that "water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives...." The Standards and Guidelines for Rangeland Health in the Central California area, as it applies to surface and groundwater resources and their quality have as a primary objective to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are a contributing factor). In the following instances the objective becomes a higher priority:

> (a) where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the CWA;
>
> (b) where aquatic habitat is present or has been present for Federal threatened or endangered, candidate and other special status species dependent on water resources; and
>
> (c) in designated water resource sensitive areas such as riparian and wetland areas.

Air Quality

The Granite Mountain Management Area falls within a Federal Air Quality Non-Attainment/ Maintenance Area (Figure 1) and is subject to the following legal requirement:

Section 176 (c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.) and regulations under 40 CFR part 93 subpart W, with respect to the conformity of general Federal actions to the applicable state implementation plan (SIP) apply to projects within non-attainment areas. Under those authorities, "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan." Under CAA 176 (c) and 40 CFR part 93 subpart W, a Federal agency must make a determination that a Federal action conforms to the applicable implementation plan before the action is taken.

> 40 CFR Part 93.153 Applicability.
>
> (c) The requirements of this subpart shall not apply to the following Federal actions:

(iii) Continuing and recurring activities such as permit renewals where activities will be similar in scope and operation to activities currently being conducted.

The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over the Granite Mountain Management Area.

CHAPTER 2:
PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The action is to continue present management, but with revised Terms and Conditions to the expiring Grazing Permit. The completed Rangeland Health allotment assessments document that continuation of livestock grazing, in the same manner and degree, complies with the intent of the Rangeland Health initiative and its Standards.

Terms and Conditions will be incorporated into the reissued Grazing Permits to ensure compliance with the Rangeland Health Standards and Guidelines and Bishop RMP decisions pertinent to livestock grazing.

A. Livestock Numbers and Season of Use

Allotment Name	Number	Kind	Season of Use	% Public Land	Permitted Use (animal unit months)
Black Lake	8	cattle	6/01 – 10/31	100	41
				Total	41
Mono Lake	8	cattle	6/16 – 10/15	100	32
				Total	32
Mono Mills	3,045	sheep	7/01 – 10/15	100	2,685
				Total	2,685
West Reservoir	100	cattle	6/16 – 9/30	100	70
				Total	70
Dog Creek	985	sheep	6/01 – 10/31	100	990
				Total	990
Little Mormon	2,981	sheep	6/01 – 10/31	41	1,230
				Total	1,230

Green Creek	607	sheep	6/01 – 10/31	100		550
					Total	550
Walters Ranch	452	sheep	5/01 – 6/30	100		54
					Total	54
Casa Diablo	57	sheep	6/15 – 9/30	100		40
					Total	40

B. Range Improvements

There are no existing, nor any proposed new improvements, that need to be eliminated or constructed in order to maintain or achieve rangeland health.

C. Measures to Maintain or Achieve Standards (Revised Terms and Conditions of the Grazing Permit).

1. Grazing use is not to exceed 40% of annual growth on key forage species (all allotments) and will leave a 4-6" stubble height on riparian vegetation.

2. No salt or other nutrient supplement placement or sheep bedding within 1/4 mile of creeks, aspen groves, meadows, sage grouse strutting grounds, or special status plant habitat.

3. No supplemental feeding (actual forage, i.e. hay) on public land or private lands that are unfenced from the public land at any time.

4. No trailing through a neighboring allotment without the BLM's authorization.

5. Grazing permits shall contain terms and conditions appropriate to achieve management and resource condition objectives for the public land, or to assist in the orderly administration of the public rangelands and to ensure conformance with the provisions of Subpart 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration). This is per Subpart 4130.3 Terms & Conditions and Subpart 4130.3-2 Other Terms and Conditions.

6. The authorized officer may modify terms and conditions of the permit when the active use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of 4180 (Fundamentals of Rangeland Health and Standards & Guidelines for Grazing Administration). This is per Subpart 4130.3-3 Modification of permits or leases.

D. Monitoring

Monitoring will consist of documenting utilization levels to ensure that grazing use does not exceed the 40% level. This will be done annually to assure compliance with terms and conditions of the permit. No long term monitoring methods to determine condition and trend are planned. At some future date, a reassessment of rangeland health may be done using the existing methodology as comparison to current conditions.

No Grazing Alternative

This alternative would result in not reissuing a grazing permit for these allotments. As a result, grazing would be eliminated. This would be a permanent cancellation. The BLM would be required to complete an RMP Plan Amendment process in accordance with BLM Planning Regulations.

CHAPTER 3:
ENVIRONMENTAL ANALYSIS

The 18 individual resource templates below combine, by resource, the affected environment, environmental consequences, and consultation sections of required elements of the EA. They include the standard critical elements of the human environment (appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock grazing.

Required Elements:

1. Air Quality

2. Areas of Critical Environmental Concern (ACEC)

3. Cultural Resources

4. Environmental Justice

5. Farmlands, Prime or Unique

   The proposed action and no grazing alternatives would have no affect on Farmlands because none are present on any of the nine allotments.

6. Flood plains

   The proposed action and no grazing alternatives would have no affect on flood plains because there are none on the public lands on any of the nine allotments.

7. Invasive, Non-native Species

8. Native American Concerns

The Native American Tribal Councils, for the seven tribes that reside within the Bishop Field Office jurisdiction, have been contacted and have not expressed any specific concerns relative to the affects of livestock grazing for these nine allotments. There are general concerns that are addressed below.

9. Recreation

The proposed action and no action alternative would have no affect on recreation because of the lack of proposed facilities or management practices that could potentially alter existing recreation uses or use patterns.

10. Social and Economic

11. Soil

12. Waste, Hazardous or Solid

The proposed action and no grazing alternatives would have no affect on Hazardous or Solid Waste, as there are no sites occurring on these five allotments.

13. Water Quality, Surface and Ground

14. Wetlands/Riparian Zones

15. Wild and Scenic Rivers

There are no Wild and Scenic Rivers within these nine allotments. However, proposed grazing within the creeks determined to be eligible for wild and scenic river study mentioned above in Relationship to Statutes, Regulations, and Plans would not impair wild and scenic river values. Riparian and stream values would remain unaffected. If ecological improvements in plant and wildlife habitat occur, then these values would be enhanced. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to the specific narrative addressing these values in other parts of this document. In conclusion, proposed grazing within allotments would conform with the BLM Wilderness Interim Management Policy for Study Rivers.

16. Wilderness

These allotments do not occur within any designated Wilderness Areas. However, proposed grazing within the Wilderness Study Areas mentioned above in Relationship to Statutes, Regulations, and Plans would not impair wilderness qualities. Wilderness values of naturalness, outstanding opportunities for solitude, and a primitive or unconfined type of recreation would remain unaffected. If ecological improvements in plant and wildlife habitat occur, then naturalness would be enhanced. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to the specific narrative addressing these values in other parts of this document. In conclusion, proposed grazing within allotments would conform with the BLM Wilderness Interim Management Policy (IMP).

17. Wildlife

18. Wild Horses and Burros

19. Vegetation

AIR QUALITY

A. Affected Environment

Three of these allotments occur inside a federal non-attainment/maintenance area within the Great Basin Unified Air Pollution Control District's (GBUAPCD) jurisdictional boundaries. The allotments inside the federal non-attainment/maintenance area include Mono Lake, Mono Mills, and Little Mormon.

B. Environmental Consequences

1. Impacts of Proposed Action

Fugitive dust emissions could occur due to the soil disturbance as a result from the trampling action of the livestock when soil moisture levels are low. Support vehicle use on the access roads will generate small amounts of PM_{10} emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment PM emissions. Ruminant animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emissions amounts from this grazing activity are negligible. No offsite impacts are anticipated.

2. Impacts of No Grazing

Same as above.

3. Cumulative Impacts

The proposed action area is within the jurisdiction of the Great Basin Unified Air Pollution Control District.

The expected emission levels are within the levels in the attainment demonstrations in the SIPs and the cumulative NAAQS 24 hour and one year PM_{10} emission standards and the one hour ozone emission standards and are not likely to result in or contribute to accedences of the National Ambient Air Quality Standards. These impacts would be the same for both Alternatives.

C. Consultation

Jim Parker, Great Basin Unified Air Pollution Control District (GBUAPCD)

D. Maps

GBUAPCD map of PM10 non-attainment areas (Figure 1)

E. References

None

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

A. Affected Environment

Approximately 3 sections (1,920 acres) of the Dog Creek allotment occur within the Conway Summit ACEC. The ACEC was designated in 1993, encompassing nearly 2,700 acres, in recognition of the unique assemblage of resource values. The goals of the ACEC are to protect scenic values, enhance recreation opportunities, and provide for interpretation of geologic features.

B. Environmental Consequences

1. Impacts of Proposed Action

Sheep grazing within the Dog Creek allotment will be in conformance with the Dog Creek Allotment Management Plan. Reissuing the grazing permit would not create any new impacts.

2. Impacts on No Grazing

This alternative would result in eliminating the possibility of cattle using the Dog Creek allotment.

3. Cumulative Impacts

There would be no cumulative impacts under either alternative.

C. Consultation

None.

D. Maps

Special Management Areas – Bishop Resource Management Plan Record of Decisions (Figure 2)

E. References

Bishop Resource Management Plan Record of Decision, April 1993.

CULTURAL RESOURCES

A. Affected Environment

Located on the western fringe of the Great Basin physiographic province the Owens Valley region, incorporated within the Bishop Field Area, contains the highest archaeological site densities within the Great Basin (Basgall and McGuire 1988; Bettinger 1975, 1982). In 1981 and 1982 the BLM completed two Environmental Impact Statements (EIS) addressing grazing on public lands within the Bishop Field Area; "Proposed Livestock Grazing Management for the Benton-Owens Valley Planning Unit", 1981 and "Proposed Livestock Grazing Management for the Bodie-Coleville Planning Units", 1982. In both EIS's cultural resource reviews are limited to Class I literature searches of existing data. The general conclusion was:

> Livestock use impacts on cultural resources include: displacement (vertical and horizontal) and breakage of artifacts, and the mixing of depositional associations through trampling; destruction or enhanced deterioration of structures and features through rubbing; and an acceleration of natural erosional processes. Plants valued by Native American traditionalists could be trampled or consumed by livestock, adversely affecting plant availability at some locations. For purposes of analysis it is assumed that the impacts of livestock use are distributed in proportion to the actual distribution of livestock, with the most intensive impacts occurring at livestock use concentration areas. Cultural Resources

> located on lands having erosional or other types of watershed deterioration problems attributed to livestock use impacts are assumed to receive high impacts. Cultural resources are non-renewable, and impacts of livestock use on cultural resources are cumulative (Bodie-Coleville EIS 1982:4-92).

Using existing survey data (BLM 1978; Busby et al. 1979; Hall 1980; Kobori et al. 1980), site densities were predicted to range from 9 sites per square mile (m^2) in the Benton Planning Unit to 4 sites/m^2 in the Owens Valley Planning Unit, with an average of 9.54 sites/m^2 in the Bodie/Coleville Planning units.

Previous Research on Grazing Impacts to Cultural Resources

Relatively few studies have been undertaken to address the impacts of domestic livestock grazing to archaeological resources (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Osborn et al. 1987; Roney 1977; Thomas D. Burke, personal communication 1998), with more emphasis being placed on the effects of human trampling in site formation processes (see Nielson 1991). Nonetheless, the same conclusions have been drawn from these studies as summed by Nielson (1991).

> Intensive trampling modifies the horizontal distribution of artifacts, it obscures patterns existing in their original deposition, and eventually introduces new trends in their spatial arrangement. By producing vertical migration of materials it also can move artifacts across stratigraphic units, and mix in the same deposits items originating in different occupations. When trodden, artifacts undergo several types of damage, like breakage, micro-chipping and abrasion. The resulting traces sometimes mimic the damage produced by use or by other post-depositional processes and therefore can lead unwittingly to erroneous functional interpretations (Nielson 1991:483-484).

Variables influencing the level of impact at any given site include: 1) soil type (e.g., hard or rocky soil substrates will lead to greater artifact damage and horizontal displacement); 2) soil moisture (e.g., wet soils will lead to greater vertical displacement and stratigraphic mixing); 3) vegetation type/ground cover (depending on site landform specifics, erosion may increase as vegetation cover decreases resulting in significant secondary impacts); and 4) intensity of grazing.

The studies reviewed here are experimental tests of trampling impacts (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Nielson 1991; Osborn et al. 1987; Roney 1977). All of the studies found that smaller artifacts (< 2 g [ASPPN 1991]) tend to migrate vertically more readily than larger artifacts thus biasing site interpretation in cases where no subsurface analyses are involved. In a controlled experiment within a portable corral, Roney (1977) found that after 40 hours, in which 78 cows were rotated through the corral, that only (5%) of 60 flaked stone artifacts could be found on the surface. The hard soil substrate was churned to a fine dust to 5 cm, 81% of the artifacts were horizontally displaced up to .75 m

and 48% were damaged and broken. Roney (1977) concluded that "...cattle do produce significant physical damage to lithic artifacts."

Nielson (1991), in his assessment of human trampling, found the same trends with top soil loosening occurring to 1-2 cm on a hard soil substrate with subsoils being compacted. Again smaller items tended to migrate downward, but were less apt to move horizontally than large specimens. Sixty percent of the lithic debitage showed damage ranging from abrasion, microflaking, and breakage. As would be expected, ceramics showed the greatest level of impact with a random distribution of sizes being reduced to a skewed, unimodal distribution dominated by smaller size classes less than 30 cm in diameter. We can predict that cattle impacts would be highly magnified over Nielson's (1991) results from his studies on human trampling, but would follow the same trends.

In field visits Tom Burke (personal communication 1998), owner and principal investigator of Archaeological Research Services, Inc., has found cattle grazing to have "substantial adverse effect to archaeological site integrity." In heavy use areas mixing can occur up to 10-20 cm in most conditions and up to 30-40 cm in wet conditions. The author's field investigations corroborate Burke's assessments. As would be expected, Burke has found impacts to be highest in areas where cattle tend to congregate such as springs, water courses, troughs, shade zones, and salt licks. The zone of impact around such features extends from 25-100 meters, with a linear pattern of roughly 25 to 50 meters following stream courses. Field assessments in the Bishop Field Area support these observations.

In summary, it can be concluded that livestock grazing can have adverse effects to archaeological resources causing artifact damage, movement, and mixing. In the case of standing structures, cattle rubbing or scratching can cause severe impacts causing structure degradation and collapse (Chuck Fell, Bodie State Historical Park, personal communication 1995). Intensity of grazing, soil hardness, moisture, vegetation cover, and type are factors influencing the level and types of impacts. Erosion is a secondary impact resulting from grazing that can also have negative effects to cultural sites. The areas of greatest concern are those locations where cattle congregate and tend to spend a large percentage of their time. In zones where cattle are more dispersed, such as upland locations, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts. In rocky areas and zones without sufficient feed very little to no cattle impact is expected to occur (field observations 1999).

B. Environmental Consequences

1. Impacts of Proposed Action

Cattle use on the subject allotments is generally highly dispersed. Due to the fact that no known sites occur within areas of heavy congregation, impacts to cultural properties are predicted to be minimal as a result of the proposed action.

2. Impacts of No Grazing

This alternative would eliminate all threats of damage to cultural properties that could result from the proposed action.

3. Cumulative Impacts

Cultural resources would be cumulatively affected from a variety of actions including livestock grazing. Continued trailing through a site may cause horizontal movement of artifacts, including artifact damage and wear. These types of impacts will be, generally, highly localized and would not adversely affect those properties of a given site which may make it eligible for listing on the National Register of Historic Places. Areas of continual cattle congregation and those where wallowing is prevalent can result in significant cumulative impacts to a cultural property, causing both horizontal and vertical mixing of deposits, artifact damage, and negative impacts to features such as living floors, hearths, and house structures. Field evaluations will identify high-use, congregation areas. In those areas where cultural resource values are significant, appropriate mitigation measures will be devised to reduce and abate impacts.

C. Consultation

Thomas D. Burke, personal communication 1998, concerning grazing impacts to archaeological resources.

Chuck Fell, Bodie State Historical Park, personal communication 1995, concerning impacts to historic buildings and resources.

D. Maps None, due to the proprietary nature of the cultural resource information.

E. References

ASPPN. 1990. Impacts Of Domestic Livestock Grazing On Archaeological Resources Archaeological Sites Protection and Preservation Notebook, Technical Notes I-15. U.S. Army Engineer Waterways Experiment Station, Vicksburg MS.

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ENVIRONMENTAL JUSTICE

A. Affected Environment

There are no low-income or minority populations living on any of the allotments. There are seven Native American communities in the Eastern Sierra which are near allotments. Members

of these communities do some hunting and subsistence collecting of materials from public lands on various allotments – pinyon nuts, basket weaving materials, medicinal plants, etc.

There may be some low-income Hispanic or other ethnic minorities working on various allotments, working for some of the cattle and sheep operations. Depending upon actual decisions made, there may be some impacts to certain individuals.

B. Environmental Consequences

1. Impacts of Proposed Action

Continued livestock grazing would have no affect upon any low-income or minority populations. If any changes in grazing operations are required, there may be a loss of a job to a member of a low-income or minority population. There may also be new jobs created. Any such impacts would be limited to a single job here or there and there would not be a disproportionate impact, either negative or positive, to such a group.

2. No Grazing

If there were no grazing allowed on public land, there may be a loss of some jobs to members of a low-income or minority population. Any such impacts would be limited to a single job here or there and would not be a disproportionate impact to such a group.

There might be a slight positive impact to some groups through increased availability of some resources that are collected on public lands. This would however vary by area and type of resource, and would probably be minimal.

3. Cumulative Impacts

Cumulative impacts to low income or minority populations from past, present, and reasonably foreseeable public or private actions including any actions on non federal lands would be extremely low and would not be disproportionate to impacts on other segments of the population under any of the alternatives. A "no grazing" scenario would potentially have the most negative impact, but again, would not be disproportionate to the low income or minority population.

C. Consultation

There are seven Native American communities in the Eastern Sierra which are near allotments.

When we began the allotment assessment process in 1999, these communities were all contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or

decided not to comment / participate. None indicated a desire or need to participate in the assessment process. (Consultation log available for FY99)

Each of the tribal offices was contacted again by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Again, they stated that there are no impacts to their communities by the grazing program that could be construed as disproportionate impacts under the Environmental Justice criteria. (Consultation log available for FY2001)

A couple of the communities expressed some specific concerns that are addressed in the Native American Consultation section of the document.

INVASIVE, NON-NATIVE SPECIES

A. Affected Environment

Allotment	Invasive Species	Estimated % Cover
Black Lake	Cheat grass (*Bromus tectorum*)	5-10%%
Mono Lake	Cheat grass (*Bromus tectorum*)	5-10%
Mono Mills	Cheat grass (*Bromus tectorum*)	5-10%
West Reservoir	Cheat grass (*Bromus tectorum*)	20-25% (Associated with burn)
Dog Creek	Cheat grass (*Bromus tectorum*)	20-25% (Associated with sheep grazing impacts, e.g. historic bedding areas).
Little Mormon	Cheat grass (*Bromus tectorum*)	10-20%
Green Creek	Cheat grass (*Bromus tectorum*)	20-25% (Associated with sheep grazing impacts, e.g. historic bedding areas).
Walters Ranch	Cheat grass (*Bromus tectorum*)	20-25% (Associated with burn)
Casa Diablo	Cheat grass (*Bromus tectorum*)	5-10%

Currently, the density of invasive, non-native plant species is low (10% or less) except on West Reservoir, Green Creek, Dog Creek, Little Morman and Walter's Ranch Allotments, and is not

affecting native species composition or vigor on these allotments or contributing to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mychorrhizal densities (Bethlenfalvay and Dakessian 1984). On the Allotments with higher weed densities there is an increased risk to yearly native annual plant recruitment that may be important for sage grouse brood rearing habitat components (BLM 2002) as well as recruitment of native perennial bunch grass and bitterbrush seedlings. Periodic early-season sheep grazing in Green Creek, Little Morman and Dog Creek uplands may be used as a management tool to reduce continued recruitment of cheat grass, but may need to be replaced with pre-emergent herbicide application and then removal of grazing for a prescribed period in areas identified as critical sage grouse use areas. Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and density of any non-native species.

B. Environmental Consequences

1. Impacts of Proposed Action

Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasives (Olson 1999) by reducing inputs into the seed bank of particular sites. Other potential long-term impacts of the proposed action if weed densities increase include a reduction in native plant cover and vigor (below and above ground production), increased erosion leading to increased germination of invasive weed seed (Evans and Young 1972), and a reduction in mychorrizal populations. Currently, the cover values for these species are low, except for those allotments mentioned above, which will likely reduce the chance for rapid spread of these species if grazing timing stipulations are judiciously complied with. Prioritization of sites that may require pre-emergent herbicide treatments should be identified.

2. No Grazing

No grazing before seed set of these invasive species could increase the seedbank inputs into particular sites over time and potentially increase the density of some of these invasive, non-native species. However, no grazing would also reduce the chances that residual weed seed from sites is spread to new areas and would minimize the likelihood that the other long-term impacts discussed above would occur.

3. Cumulative Impacts

Cumulative impacts under the Proposed Action and No Grazing alternatives would include Off-highway vehicle (OHV) use that would exacerbate the spread of invasive weeds. However no unregulated OHV use was identified during the allotment assessments.

C. Consultation

Coordination with the Eastern Sierra Weed Management Area and California Native Plant Society, Bristlecone Chapter

D. References

Evans, R.D. and J.A. Young. 1972. Microsite requirements for establishment of annual rangeland weeds. Weed Science. 18:154-161

Bethlenfalvay, G.J., and S. Dakessian. 1984. Grazing effects on mycorrhizal colonization and floristic composition of vegetation on a semiarid range in northern Nevada. Journal of Range Management 37: 312-316

Bureau of Land Management. 2002. Restoration and Management of Sagebrush/Grass Communities Workshop. Proceedings. Elko, NV.

Olson, B.E. 1999. Grazing and weeds. Pages 85-97 in R.L. Sheley and J.K. Petroff, editors. Biology and management of noxious rangeland weeds. Oregon State University Press, Corvallis, Oregon.

NATIVE AMERICAN CONCERNS

A. Affected Environment

There are seven Native American communities in the Eastern Sierra. All of the communities are near, and in some cases even surrounded by, one or more allotments. None of the communities are living on an allotment. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of the allotments.

Some members of these communities hunt and some do some subsistence collecting of materials from public lands – pinyon nuts, basket weaving materials, medicinal plants, fire wood, etc. However, this is general use and there were no specific "traditional use areas" identified by any of the Tribes on any of the allotments. Any other traditional uses or use areas have not been divulged to this office.

Some general concerns mentioned by the Tribes are:

- They have general concerns with overgrazing and want us to control overgrazing to protect the ecosystem and ensure that it is functioning properly

- They have concerns that water (or other) developments not impact cultural sites and that they not affect deer habitat (through de-watering streams / springs, or trampling of habitat around new troughs, etc.)
- They do not want cattle grazing on top of individual burials or grave sites or within known Native American cemeteries
- They do not want sheep bedding on top of cultural sites
- They do not want BLM to use herbicides on plants that they might collect
- They do not want BLM to cut / remove pinyon

All project development proposals are examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat, and cultural resources. This practice will continue under all alternatives.

Herbicides are used very sparingly and only in certain very restricted circumstances. Any potential application is examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat and cultural / traditional uses. This practice will continue under all alternatives.

Prior to any vegetative manipulation of pinyon we will consult with the Native American community. There is no pinyon treatment planned at this time.

B. Environmental Consequences

1. Impacts of Proposed Action

The Assessment showed that there is no overgrazing in these allotments and that they are in proper functioning condition. The intent is to keep the ecosystem functioning properly.

A cultural inventory and assessment is being done as part of the allotment assessment process. This cultural inventory and assessment will identify any current problems (water projects, fences, livestock bedding areas) causing impacts to cultural sites, including burials, so that they may be corrected.

2. No Grazing

Removing grazing would generally result in fewer impacts to the natural environment, thus alleviating the Native American concerns with overgrazing, water project development, grazing impacts to cultural resources/burial sites, etc.

3. Cumulative Impacts

The cumulative impacts of doing the allotment assessments and of issuing grazing permits within the requirements of the standards and guidelines will result in the long term protection and

improvement of the ecosystems found within the jurisdiction of the Bishop Field Office – better habitats for plants and animals, protection of cultural sites, etc. These improvements, coupled with continued coordination and consultation with the Tribes, should result in BLM addressing the Tribes' concerns in a manner agreeable to the Tribes.

C. Consultation

All seven Native American communities – Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted in January 1999 by letter, with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or decided not to comment / participate. (Consultation log available for FY99)

Each of the tribal offices was contacted by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Various individuals stated some general concerns, which are addressed above; but again, they stated that there are no direct specific impacts to their communities or to their community members by the grazing program. (Consultation log available for FY2001)

SOCIAL AND ECONOMIC VALUES

A. Affected Environment

Regionally livestock operations involve use of BLM, Forest Service (USFS), or City of Los Angeles Department of Water & Power lands. These nine allotments have seven permittees. Mike Johns has permitted use for the Black Lake (41 AUMs) allotment. Cora Maxine Paesano (32 AUMs) has permitted use for the Mono Lake allotment. I & M Sheep Company has permits for the Mono Mills (2,685 AUMs), Green Creek (550 AUMs), and Walter Ranch (54 AUMs) allotments. Dwight and Kenneth Chichester have permitted use for the West Reservoir (70 AUMs) allotment. Sam Etchegaray has permitted use for the Dog Creek (990 AUMs) allotment. F.I.M. Corporation has permitted use for the Little Mormon (1,230 AUMs) allotment. Finally, Ben Ansolabehere holds the grazing permit for the Casa Diablo (40 AUMs) allotment. There is a careful balance of head numbers and seasons of use for grazing these allotments, such that any substantial change of use, would negatively affect their overall operation. Having other permits or lease land available does not in itself lead to increased flexibility.

The local economy is benefited by these grazing operations from monies spent to establish and maintain a ranching operation and contributions to the labor force. This is true of any privately owned business. In Mono County for year 2001, livestock production accounted for 47% of the total agricultural values (Livestock, Livestock Products, Field Crops, Row Crops, and Timber). This amounted to $ 10,561,750 or 47% of the total $ 22,354,250 agriculture production. On a

state-wide average, for every $1.00 in agricultural production, there is a $3.00 value to the economy.

B. Environmental Consequences

1. Impacts of Proposed Action

The local economy is benefited by these grazing operations from monies spent to establish and maintain a ranching operation and contributions to the labor force. This is true of any privately owned business. Sustaining these operations, from continued use of BLM allotments, would have a positive economic affect on the stability of their overall livestock operation. The social value of retaining a rural, agricultural lifestyle would be preserved and would be in keeping with the public's perception of the eastern Sierra's western culture. The proposed action will not impact the social and economic stability of these ranching operations

2. No Grazing Alternative

If grazing were terminated on these BLM allotments, there would be slight to moderate impacts to the operators. The grazing capacity of their Forest Service and DWP leases may not accommodate the increased use or meet Forest Service or DWP's management requirements of those lands. The permittees may be forced to stock fewer numbers of livestock. The BLM may experience criticism resulting from this decision from its local constituency.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

George Milovich, Agricultural Commissioner Inyo-Mono Counties (personal communication).

D. Maps

None

E. References

Annual Crop and Livestock Report, Inyo- Mono Counties, 2001.

SOILS

A. Affected Environment

The soil information for the nine allotments was gathered from a detailed classifications map by the Natural Resource Conservation Service (NRCS) and by the Order 3 Soil Survey of the Bodie-Coleville Planning Units. Black Lake, Mono Lake, Mono Mills, and the Casa Diablo allotments were based off the NRCS survey. Two general soil types exist for these four allotments. The first soil type is soils of the mountainous region, which are shallow to very deep, well drained sandy loams to loams. The second soil type is soils of the intermountain valleys, which are moderate to very deep, well to somewhat excessively drained ashy loamy sands. Soils of the mountainous regions tend to limit the establishment of seeds and seedling development because of the sand to cobble structure. Furthermore, the very shallow soils may restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ash loamy sands are inclusions occurring within depressions or valleys between the slopes. These soils are well drained, which provide a more favorable habitat for both grasses and mixed desert shrub species.

Erosion potential of these soils range from slight to moderate on the valley floor due to wind erosion and can be somewhat attributable to the effects of cattle grazing and hoof action which disturbs the soil surface. Valley floor soils may also have inclusions of calcareous loam along remnant river terraces that exhibit duripans, which inhibit water infiltration and restrict shrub rooting depths.

West Reservoir, Dog Creek, Little Mormon, Green Creek, and Walter Ranch allotments were based off the Order 3 Soil Survey of the Bodie-Coleville Planning Units. These soils were grouped into four major areas. The first soil type is dominantly nearly level to gently sloping cool soils in closed basins that are undrained to well-drained; some are saline-alkali. The second type is dominantly moderately sloping to steeply sloping, well-drained cool and cold soils of the Bodie Hills; many are strong and cobbly. The third type is dominantly nearly level to steeply sloping cool soils on high terraces of Mono Lake and low foothill slopes or alluvial fans of the Bodie Hills; mostly sandy or very gravelly. Finally, the fourth type is dominantly moderately to steeply sloping cold soils on Sierra Foothill-slopes and glacial deposits; mostly very gravelly.

There is potential water erosion mainly along stream banks, in stream channel bottoms, in meadows, and at springs. Potential wind erosion problems would more likely exist in the Mono Basin in soils with high content of fine sand as a surface texture, with limited vegetation and a loose surface. However, there are no identified erosional problems for these nine allotments.

BLM assessed these allotments in 2001 and 2002 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

B. Environmental Consequences

1. Impacts of Proposed Action

The proposed action will result in no new impacts. The allotments will continue to meet the standards for soils.

2. No Grazing

This alternative would reduce the few minor impacts from livestock grazing. The allotments would meet the standards for soils.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

None

D. Maps

None

E. References

Bishop Resource Management Plan and Environmental Impact Statement, August 1991
Benton-Owens Valley Planning Unit, Draft Environmental Impact Statement, January 1981

WATER QUALITY, SURFACE, AND GROUND WATER

A. Affected Environment

Perennial surface water occurs in 7 of the 9 grazing allotments in the form of perennial streams and springs. The Casa Diablo allotment is devoid of surface water. The West Reservoir and Walters Ranch allotments border the western periphery of the Bridgeport Reservoir.

Water quality at Indian Spring (Mono Lake and Mono Mills allotments) and Cowtrack Spring (Mono Mills allotment) has never been determined. Water quality at Indian Spring, barring a natural chemical constituent that exceeds a tolerance level for macro invertebrate aquatic life, should be good. The site is fenced from livestock access and occasional inspection of the spring

outflow has consistently revealed a clear and cold quality with no apparent problems of turbidity or discoloration indicating a water quality problem.

Water quality for those allotments (Dog Creek, Green Creek and Little Mormon Meadow) with perennially flowing streams, based on a one or two time sampling, meets standards for aquatic life and primary drinking water indices for the following constituents: turbidity, dissolved oxygen, alkalinity (as $CaCO_3$), pH, CO_2 and total dissolved solids. A *Domestic Water Analysis* involving numerous other water quality constituents was performed on Dog, Clearwater, Green, Little Mormon and Virginia Creeks. This one time more intensive analysis found good to excellent water quality conditions in all flowing streams.

In addition, the same streams were sampled for their aquatic insect fauna (typically larval life stages of insects) on a single occasion at the time of constituent sampling. Some types of aquatic insects are generally associated with good water quality (i.e. low tolerance to persistent water quality problems). Species of insects within the Ephemeroptea, Plecoptera and Trichoptera orders are generally representative of this condition. Sampling of the mentioned streams found the highest number of aquatic insect species recorded occurred within these groups. Little Mormon Creek, compared to the other streams, had very few individual species of aquatic insects that is likely due to a slightly elevated turbidity at the time of sampling and to the loss of almost all flow in the summer months.

Clearwater Creek water quality is, from time to time, degraded by storm runoff from Highway 270, a paved road that follows the meandering course of the channel for approximately 2 miles on public land. Proximity of the road to the channel, in some places less than 2 feet from the active channel, has also influenced stream bank stability and resultant water quality due to input of sediment and other material from road maintenance.

B. Environmental Consequences

1. Impacts of Proposed Action

Water quality at springs and perennial streams should be maintained at the current high quality with implementation and monitoring of the proposed terms and conditions.

Clearwater Creek water quality will continue to be negatively influenced by Highway 270.

2. No Grazing

Water quality would be maintained, at a minimum, with implementation of a no grazing alternative.

Clearwater Creek water quality would continue to be negatively influenced by Highway 270.

3. Cumulative Impacts

Other activities that have temporarily caused a degrading of water quality along small segments of some streams include vehicle travel at stream crossings (e.g. Dog Creek near the Dog Town historic site), bands of domestic sheep brought to water at designated locations along all the perennial streams and, on occasion, large inputs of storm event runoff from asphalt based roads (e.g. Route 270-the Bodie Road and Virginia Lakes Road). An approved development for a Recreational Vehicle and Campground site on private land along Route 270 within the allotment boundary of Little Mormon Meadow may have substantial impacts on water quality in the future for the most westerly segment of Clearwater Creek and then downstream of the confluence of Clearwater and Virginia Creeks. Storm event runoff over asphalt campground roads and bare ground in and around campsites along with the concentration of vehicles and people next to a stream with an annual average flow of less than 2 cubic feet per second will likely contribute to some degradation of water quality in Clearwater and, possibly, Virginia Creek. Contaminants from motor oil, degradation of asphalt composition, silt and general activities in and around campsites next to the stream would be likely substances contributed to the stream. Aquatic insects and primary producers within the water column would be the first organisms to suffer from these occurrences.

The implementation and monitoring of the proposed terms and conditions should not contribute to any cumulative impact on water quality.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office Stream Inventory Files, 1978

BC Laboratories, Domestic Water Analysis, 1979

WETLANDS/RIPARIAN ZONES (CRITICAL ELEMENT)

A. Affected Environment

The majority of the wetlands that abut the Black Lake Allotment are on private land and include the following wetland community types (Barbour 1977): 1) Transmontane Freshwater Marsh

(permanently flooded), Freshwater Seep, Transmontane Alkali Marsh (seasonally flooded), Alkali Seeps, and Alkali Meadow (saturated soils). The Black Lake Allotment contains alkali meadow components on the eastern edge of the allotment boundary. The dominant wetland community types integrate following a gradient of moisture and alkalinity.

Transmontane Freshwater Marsh/Freshwater Seep

Transmontane Freshwater Marsh is a Rare Natural Community, State-ranked S2.2 (threatened). Marsh vegetation is dominated by bulrush (*Scirpus americanus*), (*Juncus* spp.), sedge *(Carex aquatilis* and *C. nebrascensis*), and spikerush (*Eleocharis* spp.). Common perennial wetland forbs include marsh speedwell (*Veronica scutellata)*, monkeyflower (*Mimulus guttatus*) and arrow grass (*Triglochin concinna*).

Transmontane Alkali Marsh

Transmontane Alkali Marsh is a Rare Natural Community, State-ranked S2.1 (very threatened). As the wetland system shifts away from its freshwater source, marsh and seep vegetation shift to a more alkaline community type dominated by saltgrass (*Distichlis spicata*).

Alkali Meadow

Alkali Meadow is a Rare Natural Community, State-ranked S2.1 (very threatened) and it is the most extensive wetland vegetation type within the allotment. This community type also occurs in the Adobe Lake and Granite Mountain Allotments. Dominant species include a variety of perennial grasses such as salt grass (*Distichlis spicata*), alkali cordgrass (*Spartina gracilis)*, Great Basin wild rye (*Leymus cinereus*), alkali sacaton (*Sporobolus airoides*), bluegrass (*Poa secunda* ssp. *juncifolia)* and meadow brome (*Hordeum brachyantherum*). Commun rushes include baltic rush (*Juncus balticus*) and perennial forbs include *Crepis runcinata* ssp. *hallii*, *Ivesia kingii* var. *kingii* and *Pyrrocoma racemosa* var. *sessilifolia*, alkai peppergrass (*Lepidium montanum* var. *nevadense*) and blue-eyed grass (*Sisyrinchium halophytum).*

Streams

Riparian vegetation along the 5 perennial streams varies from a predominant community of willows (*Salix spp.*), wild rose (*Rosa woodsii*) and herbaceous species primarily composed of sedges (*Scirpus* and *Carex spp.*) along Little Mormon Creek to a tree dominated stream like Green Creek with Jeffrey pine (*Pinus jeffreyi*) and quaking aspen (*Populus tremuloides*).

Overall, riparian vegetation is confined to a relatively narrow band along the stream banks that is determined, to a large degree, by the geomorphologic processes occurring on the alluvial fans.

The availability of floodplain area, and the potential for expansion of the riparian zone, varies by stream and within segments of a stream. As an example, the middle portion of Green Creek

lacks a floodplain while Virginia Creek, approximately 2 miles north of Conway Summit, has an expansive and frequently inundated floodplain. Overall the integrity of stream banks to withstand natural high flow events and anthropogenic influences is sufficient to maintain channel competence. Clearwater Creek is susceptible to the runoff from Highway 270 in storm events and has incurred substantial alteration of channel dynamic processes over the past 40+ years due primarily to location of the paved road.

Unimproved dirt road crossings occur on Little Mormon, Clearwater, Virginia and Dog Creeks. Crossing locations have generally caused a break down of stream bank integrity, widening of the channel for 10 to 20 ft. up and downstream of the crossing, creation of a shallow pool and contribution of a minor amount of suspended sediment into the downstream channel which has limited affects on channel bottom conditions.

Each perennial stream incurs some annual grazing from bands of domestic sheep. While grazing by domestic sheep can be severely detrimental to maintaining an adequate under story vegetative canopy cover important to channel functionality, typically this is not a problem on the streams in question. In fact, the physical integrity of stream banks and their functional condition is observably better on these 5 streams than streams influenced by cattle grazing in some adjacent allotments where bank integrity, water retention capacity and the overall site function rating are measurably poorer.

The original assessment of the functional condition for each stream was completed in 1993 using the protocol in the BLM Technical Reference 1737-9. Based on the assessment of each stream for its functional capability within the hydrologic, vegetative and erosion deposition categories, all streams were classified as "functioning-at-risk". Meaning, that the streams are in functional condition given their capability and potential for their physical setting, but an existing soil, water, or vegetation attribute makes them susceptible to degradation. While no formal reevaluation of the 5 perennial streams has occurred since 1993, based on recent knowledge, Dog Creek, Green Creek and Virginia Creek are either in a functional condition throughout their entirety or in substantial segments. Clearwater Creek and Little Mormon Creek continue to be susceptible to degradation.

B. Environmental Consequences

1. Impacts of Proposed Action

Wetland Communities

Impacts of the Proposed Action on the wetland vegetation within the Black Lake allotment is directly effected by grazing timing, intensity, and stocking rates. Isolated impacts continue to occur within the alkali meadow communities as well as on the private land where the majority of the wetland vegetation exists. Slight to moderate soil compaction along fence lines and in the vicinity of water developments are the key impacts to the alkali meadows. Continued grazing

under the Proposed Action will reduce soil compaction (Clary 1995), changes in site hydrology, and increase in the overall ecological function of these plant communities. Impacts to rare species such as *Calochortus excavatus* will also be reduced under the Proposed Action by increasing the availability of flowers for pollinators, therefore enhancing long-term reproductive vigor for these species. Muir and Moseley (1994) documented that livestock grazing was most detrimental to a rare alkali meadow species (*Primula alcalina*) at the time of plant anthesis and seed dispersal.

Streams

Implementation of the proposed action should maintain and/or slightly improve riparian vegetation conditions on the majority of stream miles for plant vigor, cover and structure. Clearwater Creek will remain susceptible to some channel erosion and bank instability, primarily due to the close proximity of Highway 270 to the channel.

2. No Grazing

Wetland Communities

No grazing would accelerate the recovery of alkali meadow areas currently impacted by livestock grazing and likely accelerate an upward trend of *Calochortus excavatus*.

Streams

Implementation of this alternative would permit all stream segments on public land to attain a proper functioning condition

Clearwater Creek would remain susceptible to some channel erosion and bank instability, primarily due to the close proximity of Highway 270 to the channel.

3. Cumulative Impacts

An approved development for a Recreational Vehicle and Campground site on private land along Route 270 within the allotment boundary of Little Mormon Meadow may have substantial impacts on future channel conditions for the most westerly segment of Clearwater Creek extending downstream for an unknown distance. Storm event runoff over asphalt campground roads and bare ground in and around campsites along with the concentration of vehicles and people next to a stream with an annual average flow of less than 2 cubic feet per second would likely be specific contributing factors affecting channel conditions for ClearwaterCreek.

C. Consultation

California Department of Fish and Game

D. Maps

See Allotment Maps

E. References

Barbour, M.G., Major J. 1977. Terrestrial Vegetation of California. John Wiley and Sons. Pages 853-854.

Bishop Field Office, 1978 Stream Inventory, files.

Bishop Field Office, 1988 Stream Inventory, files.

Bishop Field Office, 1993 Assessment of Functional Condition on Streams, files.

Clary, W.B. and R.C. Holmgren 1987. Difficulties in interpretation of long-term vegetation trends. IN: Poceedings of the Symposium on Plant-Herbivore Interactions. General Technical Report INT-222. U.S. Forest Service, Intermountain Research Station, Ogden, Utah.

Elmore, W. and B. Kauffman. 1994 Riparian and Watershed Systems: Degradation and Restoration IN: Ecological Implications of Livestock Grazing in the West. Edited by M. Vavra, W. Laycock and R. Pieper. Society for Range Management. Denver, CO.

Muir, P.S., Moseley, R.K.1994. Responses of *Primula alcalina* a threatened species of alkaline seeps, to site and grazing. Natural Areas Journal 14:269-279

WILD HORSES AND BURROS

A. Affected Environment

Approximately 14,000 acres (6.7%) of the Montgomery Pass Wild Horse Territory (MPWHT) occur within the Adobe Valley, Adobe Lake, and Granite Mountain allotments. In the mid- to late- 1970's the wild horses occupying these three allotments were considered a peripheral group of a larger herd proposed for management as part of the Montgomery Pass Wild Horse Management Area (draft plan, May 20, 1979). At that time, these 14,000 acres were not considered key habitat for the horses, however this area was recognized as part of their entire territorial use area.

A Coordinated Resource Management (CRM) Plan was approved in June 1988 which documented present and potential issues, identified management objectives (habitat and wild

horse) and monitoring needs. Rather extensive surveying has been conducted annually which also documents use areas at the time of the census, as well as population dynamics (adults, yearlings, and foals). John W. Turner, PhD, has been the principal researcher of this survey.

The 2001 Census and Comments Report of Mr. Turner state several important changes that have occurred since 1988. Important excerpts include the following:

"Another measure of predation we have used is the yearling: foal ratio. The herd wide ratio has gone from 0.34 to 0.59 during the past 10 years, indicating increased foal survival herd wide. However, the ratio in common lion-use areas is 0.7, above the herd average."

"Consistent with this observation is the fact that, since 1992, horse numbers have steadily increased in non-lion areas and have gradually decreased in lion-use areas. This redistribution may also have been influenced by other factors, including changes in availability of water and preferred feed, climatic changes and intensive outfitter presence in the summer range area in May/June (foaling/breeding period) since 1986. The latter may be of little current consequence, since the horse bands intolerant of human presence vacated these areas years ago. A potential benefit of these changes is the habitat/feed recovery in the key summer range area, which has historically experienced some overgrazing. A potential disadvantage is that some recently established areas of at least seasonal (spring, summer) horse use lie outside of the designated MPWHT." (Emphasis added)

"In summary, changes in MPWHT horse distribution have occurred during the past 9 years, and assessment of how this will influence the future of horse numbers, distribution, range utilization and the predator-prey relationship is warranted. The ratio of summertime horse numbers in historic summer range vs. other range areas has shifted from approximately 1.5 to 0.8 across the past 9 years. This is a very large shift." (Emphasis added)

This shift in spring/ summer use areas refers to the Adobe Valley, Adobe Lake and Granite Mountain allotments, almost exclusively. Although authorized livestock grazing use of all three allotments is much reduced since 1992, due primarily to permittee requested non- use, there has been increased forage consumption by wild horses.

The BLM's Management Framework Plan, signed in June 1982, set aside forage in animal unit months (AUMs) for wild horses amounting to 21 for Adobe Lake, 98 for Adobe Valley and 0 for Granite Mountain (total = 119 AUMs).

The acknowledged shift in use areas, period of use, and number of wild horses observed by Turner, as well as BLM Range staff poses a significant potential for overgrazing and reduced ecological condition on these three allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

There would be no negative impacts to wild horses by implementation of the proposed action. However, should wild horse numbers increase, period of grazing use increase or expansion of their use within these allotments occur, there would be a reduction in the amount of available forage to livestock and wild horses and a degradation of ecological condition of the vegetation communities.

There are no impacts to wild horse distribution or numbers from the existing range improvement projects.

Although there has been no formal request by the three grazing permittees for the BLM and Forest Service to remove some number of wild horses, this could change as BLM regulations have become stricter for grazing permittees to comply with since July 2000.

2. No Grazing

No livestock grazing would potentially have a positive affect on the wild horse herd by eliminating a competitor for forage. Currently horses roam at will, utilize steeper, more remote areas, travel greater distances to water than livestock and are able to use the rangeland at any time of their choosing.

There is the potential for wild horses to expand their use areas beyond what has occurred since 1992. This could pose some negative impacts to other resources and permittees. Their population number may potentially increase as additional amounts of forage become available and horses continue to avoid key mountain lion areas which reduce the opportunity for predation.

3. Cumulative Impacts

The MPWHT population and historic use areas (especially the "key summer range") have expanded from that recognized in 1971 (passage of the Wild Free Roaming Horse and Burro Act). Grazing by wild horses occurs unregulated as to basic principles of range management i.e. proper time/season, amount of use, duration of use and area of use. Livestock grazing is regulated and more closely follows acknowledged principles and practices of the science/art of rangeland management.

Given the increased wild horse population and their expansion of use areas, it is reasonable to conclude that rangeland vegetative resources have been negatively impacted by horse use over time on the Adobe Lake, Adobe Valley and Granite Mountain allotments. That is not to say that livestock grazing has not been a factor, however the livestock grazing use of these three allotments has diminished considerably from 1992 to the present.

The permittee for the Adobe Lake allotment, which also contains some 2,000 acres of private land, has been impacted by increased horse numbers grazing the forage that would otherwise be available to livestock. This is also the case for the 900 acres of California Department of Fish and Game land at River Springs, although livestock grazing has been eliminated there.

If a reduction of wild horse numbers, through capture and subsequent adoption or placement in a wild horse sanctuary does not occur in the near term, the overall condition and amount of range vegetation will diminish. This would negatively affect both wild horses and livestock grazing in the future.

C. Consultation

None

D. Maps

None

E. References

Benton-Owens Valley Planning Unit (Draft Environmental Impact Statement) 1981.

Montgomery Pass Wild Horse Territory (Coordinated Resource Plan) June, 1988.
2001 MPWHT Wild Horse Census Summary and Comments

WILDLIFE

A. Affected Environment

The dominant plant communities and their composition are described for upland, lower montane meadow and aspen grove types under the Vegetation section. An inventory of non-game wildlife species represented within major, important habitat types was undertaken in 1977-1978 to document the relative importance of each vegetation association to small mammals, breeding songbirds, reptiles and amphibians. Where those habitat types may occur within the Black Lake, Mono Lake, Mono Mills, and Casa Diablo allotments (lumped together as the Mono area group of allotments) and all other allotments (lumped under the Bodie area group of allotments) non-game wildlife species inventories resulted in the following:

Willow Thicket/Northern Riparian Woodland

Indian Spring is an example of this habitat found along the boundary of the Mono Lake and Mono Mills allotments. Riparian habitat supported the largest number of breeding pairs of birds, ranging from 212 to 560 pairs per 100 acres of habitat and represented by an average of 11 species. Sampling for small mammals, amphibians and reptiles did not occur in this habitat. Based on inventory of other allotments with this habitat, species within these groups would be expected to occur in substantial densities and/or diversity of species.

Within the Bodie group of allotments, bird counts reflected total number of individuals observed, not breeding pairs as in the Mono area. Dog Creek (Dog Creek allotment) represents a willow riparian site inventoried. Bird densities ranged from approximately 180 to 480 individual birds per 100 acres. Bird species diversity was the greatest compared to other habitats with an average of 31 species recorded. Small mammal (rodent) species abundance was not quantified in the inventory. However, from the evidence it seems substantial densities of rodents occur within the various riparian types with comparable species diversity to the lower elevation sites. Amphibians and reptile species seem to be well represented based on sampling from Clark Canyon, near the Little Mormon allotment.

Pinyon-Juniper Woodland

Areas within Black Lake and Mono Mills allotments contain this habitat. The high degree of structural complexity within this vegetation type contributes to the greater diversity of wildlife species recorded. Twenty-two species of birds were recorded as breeding and nesting in this habitat, more than any other habitat surveyed. Eight species of small mammals have been recorded in this habitat with the deer mouse (*Peromyscus maniculatus)* being present in very high number. Inventory of this habitat type nearby, but not within the 4 allotments, recorded the highest diversity of reptile species among 10 different habitats.

Within the Bodie group of allotments, portions of the Little Mormon, Green Creek and Walters Ranch allotments provide this habitat type. Of the 5 shrub community types surveyed for passerine birds, this habitat is the most important in relation to supporting high species richness and bird densities. Generally this habitat provides for 2 times the number of bird species (14 spp.) and up to 134 individual birds per 100 acres. Diversity of small mammal species is equivalent to pinyon community types in other regional locations. The Sciuridae (ground squirrels) represent the majority of species in this habitat. Amphibian and reptile diversity is also the highest for non riparian habitats surveyed. Nine of 21 amphibian and reptile species recorded in non riparian habitats occur in this vegetation type.

Great Basin Big Sagebrush-Bitterbrush

Areas within the Mono Lake and Mono Mills allotments contain this habitat. Although being rather depauperate of songbird species (7 species), this habitat supports the highest density of

breeding bird pairs of the non-riparian habitat types. The 1978 inventory recorded 117 breeding pairs per 100 acres of habitat. Small mammal species are also poorly represented in this habitat, however the largest number of deer mice (*P. maniculatus*) were recorded here compared to all other habitats surveyed. Based on survey results of this habitat from an adjacent area, reptile species diversity and densities are likely very low.

Within the Bodie group of allotments, this is the predominant habitat type. On average, this habitat supports 7 species of birds with densities up to 130 individual birds per 100 acres. On a total biomass scale, this habitat supports, by far, the largest number (population) of birds in the area of consideration. Small mammal species diversity is the highest (at least 15 spp.) in this vegetation type, likely due to the complexity of smaller habitats (rock outcrops, ecotones and differing levels of successional vegetation from natural or anthropogenic events) within the larger community. Amphibian and reptile species occurrence in this community is substantially less than most other habitats surveyed in the Bodie area. Pit vipers and non venomous snake species (at least 4 spp.) are the largest reptile group represented in this habitat.

Additional Species and Habitats

Mule deer (*Odocoileus hemionus*) primarily use the entire proposed action area as a migration route to and from the Sierra Nevada for summer and winter habitats. All or substantial population elements of 3 recognized mule deer herds (East Walker, Mono Lake and Casa Diablo) traverse the area during fall and spring migration. Portions of some allotments (like Casa Diablo and Mono Lake) do not have the habitat complexity that is attractive to mule deer. Overall, the sagebrush/bitterbrush areas within these allotments provide critically important forage along with thermal and hiding cover as they move to and from the Sierra Nevada. Water sources are generally well distributed across the Bodie group of allotments and in combination with the predominance of the sagebrush/bitterbrush community in association with pinyon pine, aspen and riparian inclusions within the landscape, deer find this area extremely attractive as summer habitat, also. Ensuring sufficient forage is maintained on bitterbrush after livestock grazing is essential for migrating and resident mule deer.

Pronghorn (*Antilocapra Americana*) seasonally (the non winter period) occupy habitat within the Little Mormon allotment. The species is not known to regularly use habitat within any of the other allotments covered under this group. Pronghorn, overall, use a much larger area within the Bodie Hills region and generally do not extend their use of habitat in the non winter period further to the west than Highway 395. As a browsing animal, pronghorn are sympatric with mule deer and are closely aligned with them in their use of forage species and the other habitat attributes important to deer. Pronghorn give birth to their fawns in early to late spring in the Bodie Hills and likely find suitable areas within the Little Mormon allotment for this part of their life cycle. Again, ensuring sufficient forage and forage quality are available for pronghorn during and post livestock grazing is essential to maintaining a healthy population.

Sage grouse (*Centrocercus urophasianus*) are found in suitable sagebrush habitats within all allotments except, possibly, for Black Lake. The species is dependent on specific sagebrush community physical attributes being present to ensure adequate cover and forage availability to complete the breeding, foraging, nesting, and brood rearing components of their life cycle. Identification of winter range for this species is critically important to ensure livestock grazing or other possible natural or anthropogenic impacts do not degrade the quality or extent of these areas. Winter range identification has not been accomplished to date, although a radio telemetry study of the Bodie population is ongoing from April, 2000. While the terms and conditions to be applied to these grazing permits to achieve use standards will likely achieve, in large measure, maintenance or improvement in essential habitat components for sage grouse, *identification of winter range and evaluation of its quality may highlight a need to reevaluate livestock use practices in the future.*

The population trend for this deme has been decreasing since the early 1990's. For the previous 9 years of record, sage grouse have averaged 35% of the high population number (357 males on strutting grounds) recorded in 1992.

Threatened or Endangered Species

No threatened or endangered species are known to occupy habitat within these allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

The overall habitat quality, reflected in the physical condition and increased biomass of vegetation, should be improved from their current conditions with implementation of the proposed terms and conditions. Species guilds within the rodent and songbird groups should gain the most immediate benefit from improvement in the availability of food and cover. Habitat quality for mule deer and pronghorn should be improved due to the increased availability of current year growth on forage species like bitterbrush (*P. tridentate*) and annual forbs. Sage grouse habitat quality should be improved through retention of a larger biomass of herbaceous species in the shrub and meadow communities after livestock removal. The most important attributes to be gained for sage grouse would be an increase in the lateral and overhead cover in the sagebrush community and an improved residual height to meadow herbaceous vegetation that would result from the more conservative forage utilization limits.

2. No Grazing

Overall wildlife habitat conditions would be improved, particularly in the immediate effect to species guilds within the rodent and songbird groups. Many rodent species would benefit over a relatively short period of time due to an increased food base, particularly from graminoid plant species. Increased populations of rodents should benefit predatory species groups like canids

and raptors. Habitat conditions for all species would eventually attain their potential level of productivity as a food resource and for life cycle requirements.

3. Cumulative Impacts

Improved condition in the native bunch grasses should provide an increased forage base for rodents and passerine birds across all allotments. Populations of these smaller animals should be positively influenced and in some years provide an improved food base for predators. Habitat conditions, both forage quality/quantity, and plant physical structure, for mule deer, pronghorn and sage grouse should be improved from the current level and contribute to some, not predictable, improvement in population number.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office, Benton Unit Resource Analysis and Bodie Hills Unit Resource Analysis, Step II and Step III, 1978 and 1979.

Bishop Field Office, Sage grouse census reports, files.

VEGETATION

A. Affected Environment

Uplands

A baseline range inventory for these allotments was completed in 1984 using the BLM Site Inventory Method (SVIM). The allotments occur in the Great Basin Floristic Province. The dominant plant communities are sagebrush/bitterbrush and pinyon woodland.

Sagebrush/bitterbrush communities are dominated by sagebrush (*Artemisia tridentata* ssp. *vaseyana*, *A. tridentata* ssp. *tridentata*, *A. tridentata* ssp. *wyomingensis* and *A. tridentata* ssp. *parishii*), bitterbrush (*Purshia tridentata* var. *glandulosa* and *P. tridentata* var. *tridentata)*. Understory grasses such as indian rice grass (*Achnatherum hymenoides*), desert needlegrass (*Achnatherum speciosum*), needle and thread (*Hespirostipa comota*), western needlegrass

(*Achnatherum occidentalis*), and Thurber's needlegrass (*Achnatherum thurberianum*) can make up 15-20% of the cover at the higher elevations of the allotments (Barbour and Major 1977). Additional species include, but are not limited to: hop sage (*Grayia spinosa),* horsebrush (*Tetradymia canescens),* Nevada and green ephedra (*Ephedra nevadensis.* and *E. viridis),* and yellow and curly-leaved rabbitbrush (*Chrysothamnus nauseosus and C. viscidiflorus).* During years of high precipitation annual forbs are abundant and include, but are not limited to, species from the following genera: Astragalus, Arabis, Cryptantha, Eriogonum, Gilia, Phacelia, Phlox and genera in the Asteraceae Family.

The pinyon woodland communities are dominated by an overstory (15-20% cover) of singleleaf pinyon pine (*Pinus monophylla)* with a sagebrush/bitterbrush understory. Perennial forbs include species from the following genera: Astragalus, Cryptantha, Eriogonum, and Phlox.

The majority (80-90%) of the upland plant communities within these allotments have been moderately impacted by livestock grazing. Generally, utilization of key forage species, e.g. needlegrass species and bitterbrush is slight to moderate and occurs between spring and summer. Forage capacity on these allotments is moderate and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment and recovery (Clary and Holmgren 1987; Holcheck 1983; Sneva 1980)

Lower Montane Meadows

The two dominant ecological meadow types within the Dog Creek and Green Creek allotments are mesic graminoid and dry graminoid (Weixelman, Zamudio 1999). Mesic graminoid meadows are wet to moist well into the growing season. Depth to saturation averages 34 cm. The most common soil taxa is Typic Cryaquoll with a peat or muck rich surface layer. This type is most common on drainageways, but can also be found on floodplains. Dominant species in the mesic graminoid meadow include, but are not limited to: Nebraska sedge (*Carex Nebrascensis), Carex simulata, Carex lanuginosa, Carex utriculata*, *Deschampsia cespitosa, Hordeum brachyantherum, Muhlenbergia filiformis, Epilobium ciliatum, Stellaria longipes var longipes* and *Aster occidentalis.* Willow stands can border these communities and include such species as, *Salix geyeriana*, *S. lemmonii, S. lutea* and *Salix exigua*.

Dry graminoid meadows are most commonly found on trough drainageways and stream terraces. Soils lack saturation and the most common soils are Haplocryolls indicated by dark, mollic surface horizons. Dominant species in the dry graminoid meadow include, but are not limited to: *Poa secunda* ssp. *juncifolia, Muhlenbergia richardsonis, Carex praegracilis,* thin-stemmed wheatgrass (*Elymus trachycaulus), Carex filifolia,* Baltic rush (*Juncus balticus), Penstemon rydbergii, Gayophytum diffusum, Trifolium monanthum,* and yarrow (*Achillea millefolium).*

Plant community shifts within both these meadow types are driven by changes in site hydrology and soil compaction. Key compositional shifts that indicate degradation to these site

characteristics include the increased dominance of more impact resistant species such as *Juncus balticus, Iris missouriensis, Taraxacum officinale* (dandelion), as well as the encroachment of shrubs such as sagebrush (*Artemisia tridentata* ssp. *tridentata, Artemisia cana)* and rabbitbrush (*Chrysothamnus nauseosus)* into the meadow (Weixelman, Zamudio 1999) . These compositional shifts reduce the overall plant differsity of these meadow sites and may indicate that an ecological threshold has been exceeded that may permenantly impair the long-term recovery of the site to pre-disturbance community structure and ecological function.

Aspen Grove Communities

Aspen exist as small, scattered stands in both the Dog Creek and Green Creek Allotments. These are generally even-aged stands with moderate to low juvenile (sucker) numbers. Understory vegetation is dominated by California brome (*Bromus carinatus)*, *Hordeum jubatum,* hawksbeard (*Crepis acuminata*), *Descurania sophia,* currant (*Ribes velutinum)* and occasional snowberry (*Symphoricarpos rotundifolius*). In more impacted groves understory vegetation is dominated by *Bromus tectorum,* mullein (*Verbascum thapsus),* Canada thistle (*Cirsium arvense)* and nettle (*Urtica dioica)*. A resurvey of aspen grove W1158 (1980/1988) in the Dog Creek Allotment in 1994 showed a static to decreasing trend in understory composition indicated by increases in cheat grass cover and other non-native plants: Canada thistle and muellin. Stand vigor and age class diveristy decline was evident throughout the complex. Some juvenile (sucker) recruitment was evident on the grove periphery, but these were heavily herbivorized.

B. Environmental Consequences

1. Impacts of Proposed Action

Uplands:

Impacts of the Proposed Action on the vegetation within these allotments is directly affected by grazing timing, intensity and stocking rates. Current stocking rates are moderate and do not greatly impair the large-scale ecological function of these plant communities except during drought years. The key forage species which receive the most use are the perennial bunch grasses and bitterbrush. Continued grazing at current levels will affect small portions (in the vicinity of water troughs and mineral blocks) of the allotments and not contribute to reductions in overall plant community ecological function as long as current Rangeland Health Guidelines are adhered to, e.g. 40% utilization. There may be increases in invasive weeds in proximity to high concentration use areas, e.g. watering facilities and mineral blocks.

Meadows and Aspen Groves:

Impacts of the Proposed Action on meadow and aspen grove vegetation within these allotments is directly affected by grazing timing, intensity and stocking rates. Current stocking rates are moderate, but these communities continue to receive high to intensive use due to their proximity

to water and the shade they provide. Dominance of cheat grass in degraded aspen communities will continue unless vigilent use of sheep herding is used in combination with active restoration of these groves. Soil compaction and changes in community composition and structure that affect site capability and productivity are impacts that are likely to continue as well, unless strict adherence to Rangeland Health Guidelines occurs.

2. No Grazing

Under the No Grazing alternative no impacts to the ecological function of these plant communities would take place.

3. Cumulative Impacts

Cumulative impacts may include changes in Department of Water and Power allotment management which could prompt permittees to seek out more grazing opportunities on Public Land. Wild horse use will also increase impacts on the vegetation communities where herd numbers are increasing.

C. Consultation

Coordination with the California Native Plant Society, Bristlecone Chapter

D. Maps

See GIS Allotment Maps

E. References

Barbour, M.G., Major J. 1977. Terrestrial Vegetation of California. John Wiley and Sons.

Clary, W.B. and R.C. Holmgren 1987. Difficulties in interpretation of long-term vegetation trends. IN: Proceedings of the Symposium on Plant-Herbivore Interactions. General Technical Report INT-222. U.S. Forest Service, Intermountain Research Station, Ogden, Utah.

BLM 1998 2. Rangeland health standards and guidelines for California and northwestern Nevada: Final EIS. California State Office, U.S. Department of the Interior, Bureau of Land Management, Sacramento, CA.

Holechek, J.L. Stephenson, T. 1983. Comparison of big sagebrush vegetation in northcentral New Mexico under moderately grazed and grazing excluded conditions. J. Range Management 35, 455-456.

Sneva, F.A. 1980. Crown temperature of Whitmar wheatgrass as influenced by standing dead material. J. Range Management 33, 314-315.

Weixelman, D.A., Zamudio, D.C., Zamudio, K.A. 1999. Eastern Sierra Nevada Riparian Field Guide. U.S. Dept. of Agriculture, Forest Service, Intermountain Region. R4-ECOL-00-01.

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Reviewed by: _____ **Date:** _____
Environmental Coordinator

FINDING OF NO SIGNIFICANT IMPACTS

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action will not have any significant impacts on the human environment and that an EIS is not required.

There will be no effect on threatened or endangered species as a result of the action.

I have determined that the proposed project is in conformance with the Bishop Resource Management Plan, which was approved March 25, 1993. This plan has been reviewed, and the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

It is my decision to implement the proposed action and issue 10-year grazing permits with the currently used standard grazing stipulations to the grazing operators for the nine allotments. Livestock grazing management on these nine allotments will remain unchanged from past use, but subject to adherence with the Central California Rangeland Health Standards and Guidelines and RMP decisions pertaining to livestock use. The Rangeland Health Assessments conducted, indicate that there are no significant environmental impacts from current use and the allotments all meet the Rangeland Health Standards.

Authorized Official:

_____
Field Manager, Bishop Field Office

Date: _____